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Remarks

Reconsideration of the above referenced application in view of the enclosed amendment and remarks is requested. Claim 7 has been amended at the Examiner's request. Existing Claims 1-3, 5-9, and 11-15 remain in the application. Claims 1-3, 5-9 and 11-15 are now pending. Applicant notes with appreciation that Claims 2 and 8 have been identified as being directed to allowable subject matter.

ARGUMENT

Claim 7 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is respectfully traversed, but is moot based on the above amendment. The Examiner asserts that adding the word "automatically" makes the limitation contradictory. This assertion is incorrect. "Automatically sending a discovery message in response to a request to access the node" implies that there is no operator intervention and that the discovery message is sent without a decision being necessary. However, in an effort to expedite allowance of this application, Applicant amends the claim to remove the limitation "automatically." This amendment in no way reduces the scope of the recited elements or their equivalents. Claim 7 is now believed allowable as amended.

Claims 1, 3, 5-7, 9, and 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,512,768 to Thomas (hereinafter, "Thomas"). This rejection is respectfully traversed and Claims 1, 3, 5-7, 9, and 11-15 are believed allowable as previously amended based on the following discussion.

It should be noted that Thomas teaches a system and method for acquiring links from one router to another. Applicant's claimed invention is directed toward links between systems, or nodes on a network, where the nodes are running applications or services. Applicant's claimed invention enables applications running on a first node (system) to acquire and maintain links to other nodes in order to access services running on the other nodes. Therefore, application of

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Thomas' teachings cannot result in the Applicant's invention and all of the pending claims are believed allowable, i.e., § 102 rejection is improper.

Regarding Claim 1, the Examiner asserts that Thomas teaches *automatically sending a discovery message to a node, enabling node access if a response to the discovery message is received; and automatically checking a link to the node to make sure that the node is still accessible*. Thomas teaches a tag-switching router on a tag-switching network establishing a single tag distribution protocol (TDP) session with a peer for the advertisement of tag bindings shared by two or more interfaces and contemporaneously establishing with the peer one or more additional TDP sessions for the advertisement of tag bindings dedicated for use by specific interfaces. (Abstract) The improved tag-switching method taught by Thomas is limited to router switching. Further, the method taught by Thomas comprises a router sending messages announcing that they are on the network (Hello PIE). At no time does Thomas teach that a *node* sends a message to *discover* whether a different node is available on the network.

Applicant's invention is a system and method for applications (clients) running on a node (not a router) to discover whether other nodes are accessible, and if so, link to them. One goal is for applications to discover which nodes are available that are needed to access specific services. Applicant's claimed invention requires that the node automatically sends a discovery message to a peer node to elicit a response. This discovery message is not an announcement that the first node is on the network, as is Thomas' Hello PIE message. The discovery message is a query to determine whether the second node is accessible. If the second node is accessible, it sends a discovery *response* (enabling access if a response to the discovery message is received) and the node access is enabled.

In contrast, Thomas teaches a method where routers continuously send messages to each other that they are available (Hello PIE), but does not teach sending a query (discover message) to other nodes. Thomas teaches a broadcast method for routers to link to one another, but does not teach a method for a node to specifically query another node in order to create a link. When a router receives a Hello PIE message, it sets a hello hold timer. If another Hello PIE message is not received before the expiration of the timer, the router terminates the connection. Thomas does not teach a method where a first node actively queries a second node to determine whether a link can be made.

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Further, Claim 1 requires *automatically checking a link to the node to make sure that the node is still accessible*. Applicant's claimed invention comprises a first node actively querying linked nodes to determine whether they are still accessible. While Applicant teaches a timer, at the expiration of the timer, a new query is automatically sent to the linked node (checking a link) to determine that the link is still accessible. In contrast, Thomas teaches a passive method where if the Hello PIE message is not received, the link is automatically terminated. The router remains unlinked until another message is sent from the second router, which may never come. The elements of Claim 1 are not taught or suggested by Thomas. Thus, Claim 1 and its progeny are believed allowable.

With regard to Claim 3, the Examiner asserts that Thomas teaches notifying a client wishing to access a node. (Col. 7, lines 25-28). This cited reference describes:

"FIG. 8 is a block diagram of a tag-switching router 100 incorporating the invention. The operation of a tag-switching router is described in the above-cited Rekhter et al. application. Although router configurations vary widely, FIG. 8 depicts a typical approach. The tag-switching router 100 is comprised of a forwarding engine 70 and a plurality of interface (I/F) modules 62, 64, 66 which send and receive communications packets to and from remote locations."

In essence, this excerpt teaches that Thomas' routers have modules for sending and receiving communication packets. At no time does Thomas teach that an Application (client) running on a node is to be notified of a response to discovery (notifying a client). Applicant's specification describes that "applications may be notified of the availability of the link as indicated in block 54." (Page 5, lines 14-15) Further, Applicant describes "if a response is not received as determined in diamond 66, the software 44 transitions to the disconnected state 18 as indicated in block 70. Next, clients are notified of the link disconnection in block 74." (Page 5, lines 21-24) It is clear from the specification that the terms "application" and "client" are synonymous in this context. Thomas does not teach notification to a client or application, nor does Thomas even teach that applications can be run on nodes which need to use services on other nodes. Thomas merely teaches that routers may be linked with a tag switched network. Thus, Claim 3 is believed to be allowable.

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With regard to Claim 5, the Examiner asserts that Thomas teaches “*checking a node at timed intervals.*” At no time does Thomas teach “*automatically checking said node at timed intervals in order to maintain a connected state.*” Thomas teaches that a router waits to receive a Hello PIE message before the expiration of a timer. The router does not actively check the node. The router merely checks to see if a message has been received. In contrast, Applicants claim *automatically checking the node at timed intervals.* This check is clearly an active check of the node. When Applicant’s claimed timer expires at timed intervals, the node is actively checked. This check is not the same as waiting for a message to arrive. Applicant’s check is clearly described in the specification as “in the connected state 20, the software periodically queries the connection to the node(s) 22 to make sure that the connection(s) is/are still alive. In particular, a keep alive message 38 is sent to the node(s) 22, and if a response is not received after a particular time period, the software will transition to the disconnected state as indicated at 36.” (page 4, lines 22, et seq.) (emphasis added) At no time does Thomas teach sending a “keep alive” message. Thomas’ router merely waits for a Hello PIE message to be received to determine whether the link is still accessible. Thus, Claim 5 is believed to be allowable.

With regard to Claim 6, the Examiner asserts that Thomas teaches “*automatically sending a message to determine whether the node is still accessible after said response to said discovery message is received.*” Thomas does not teach sending a message after a discovery message is received. Thomas teaches that a router continuously sends a Hello PIE message as an announcement that it is available. If the message is received, a link is either established or maintained, but the handshaking claimed by Applicant is not taught. Thomas does not teach that a node sends a discovery message, receives a response, and then continually queries the connected node to determine that the link is maintained. Thomas merely teaches that a router may continually receive additional Hello PIE messages at timed intervals which indicate that the link is maintained. Thomas does not teach querying with “keep alive” message, as described and claimed by Applicant. Thus, Claim 6 is believed to be allowable.

With regard to Claims 7, 9, 11 and 12 for articles comprising a medium storing instructions, Applicant’s arguments above apply for like limitations. While Thomas teaches a storage medium for the instructions, Thomas fails to teach the other elements and limitations of

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Applicant's claims, as discussed above with regard to Claims 1, 3, 5 and 6. Thus, Claims 7, 9, 11 and 12 are believed to be allowable.

With regard to Claim 13, the Examiner again confuses Thomas' broadcast Hello PIE messages with Applicant's *discovery messages*. Further, the Examiner mistakenly likens Thomas' passive receipt of a Hello PIE message to Applicant's active checking of the node. As discussed above, Thomas teaches that routers broadcast their availability to the network. As long as they continue to broadcast Hello PIE messages, other routers will maintain their link with them. In contrast, Applicant claims a system where a node actively queries another node to determine the availability of the second node. If a response is received from the second node, the first node periodically and actively queries the other node and waits for the receipt of a keep alive response to indicate that the node is still connected. Thus, the elements of Claim 13 are not taught or suggested by Thomas.

With regard to Claim 14, the Examiner asserts that Thomas teaches a system being a processor based system. In fact, Thomas teaches that the packet forwarding engine is a high-performance processor. Thomas does not teach the presence of a "system" but merely of a series of interface modules and a forwarding engine. At no time does Thomas teach or suggest that the router can do anything but route packets. In contrast, Applicant describes a system in the Background section of the specification in the following excerpt:

"Software applications on one system often need to understand what services are available from other nodes on the same network. As one example, a browser on a private intranet may need to know whether a web proxy service that resides on another system is available." [Emphasis added]

Thomas does not teach or suggest that applications may run on the router because Thomas' router is not a "system" as described by Applicant. Thus, this rejection is improper and Claim 14 is allowable.

With regard to Claim 15, the Examiner asserts that Thomas teaches "*to automatically send a message to determine whether the node is still accessible after said response to said discovery message is received.*" This rejection is improper as described above in connection with Claim 6. Thus, all claims remaining in the application are now allowable.

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CONCLUSION

In view of the foregoing, Claims 1-3, 5-9 and 11-15 are all in condition for allowance. If the Examiner has any questions, the Examiner is invited to contact the undersigned at (703) 633-6845. Early issuance of Notice of Allowance is respectfully requested. Please charge any shortage of fees in connection with the filing of this paper, including extension of time fees, to Deposit Account 02-2666 and please credit any excess fees to such account.

Respectfully submitted,

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Joni D. Stutman-Horn
Patent Attorney
Intel Corporation
Registration No. 42,173
(703) 633-6845

c/o Blakely, Sokoloff, Taylor &
Zafman, LLP
12400 Wilshire Blvd.
Seventh Floor
Los Angeles, CA 90025-1026